

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings of claims in the application:

**Listing of Claims:**

1                   1.       A process for compressing [CP] input digital video signals (VN) and for  
2 decompressing [DP] compressed binary signals (SIC, SIC1) resulting from such a compression,  
3 said input digital video signals (VN) having at least a luminance component and being formed by  
4 a succession of corresponding frames, each frame representing a video picture and formed by a  
5 succession of pixels,

6                   [I] wherein the ~~whereas this~~ compression process [CP] ~~includes~~ consists in  
7 looking for the displacements and the sudden modifications in the different corresponding pixels,  
8 between two successive frames of the input digital video signals ~~to be encoded~~, and ~~consisting in~~  
9 deducting from the said displacements and from the said sudden modifications, a flow of binary  
10 encoded an encoded signals (VP) which comprises:[[,]] for the initial sequence and for each  
11 following sequence of the digital video signals (VN) beginning with a modification in the video  
12 picture ~~represented by the said digital video signals, in~~ of a given frame with respect to the  
13 previous frame~~[[,]]~~:

14                   -on the one hand, at the beginning of a sequence, ~~or as well as~~ for the pixels  
15 suddenly modified in value, at least the ~~[[said]]~~ frame or the ~~[[said]]~~ pixels of the ~~[[said]]~~ digital  
16 signals to be encoded, without encoding any modification, and

17                   -on the other hand, throughout the sequence up to the beginning of the following  
18 sequence, a succession of correction bit packets,

19                   said compression process [CP] including:

20                   [A] - a preliminary encoding operation of the ~~[[said]]~~ input digital video  
21 signals (VN) using a wavelet analysis process, favoring the transmission of the contours of the  
22 successive pictures represented by the ~~[[said]]~~ signals, in order to obtain a succession of mosaic  
23 encoded digital signals (VM) ~~forming encoding the said signals in the form of~~ a succession of  
24 picture mosaics,

[B] - an encoding operation for producing a flow of binary signals (VP) from the succession of mosaic encoded digital signals (VM),

[C] - a final compression operation of the flow of binary signals (VP) in order to produce compressed binary signals (SIC, SIC1) so as to reduce the number of the binary signals, ~~by suppression of the majority of the binary signals of the said flow whose value is determined within both possible values of such signals, and~~

[II] wherein the ~~whereas this~~ decompression process [DP] ~~includes~~ consists in decompressing digital signals composed of the compressed binary signals (SIC1) ~~resulting from the said compression process, i.e. comprising for each sequence at least a first digital signals frame, not modified by the said compression Process, followed by a succession of correction bit packets,~~

said decompression process [DP] including:

[D] - ~~[[a]]~~ an initial decompression operation of the ~~[[said]]~~ compressed binary signals (SIC1) which reconstructs (VP1) the ~~[[said]]~~ flow of binary signals ~~before suppression (VP), which was compressed in the said final compression operation, of the majority of binary signals of determined value,~~

[E] - a decoding operation of the ~~[[said]]~~ flow of binary signals (VP1) producing a succession of mosaic encoded digital signals (VM1),

[F] - a final decoding operation ~~producing, reconstructing,~~ from a succession of picture mosaic encoded digital ~~[[type]]~~ signals (VM1), a digital video ~~signals-signal~~ (VN1) formed by a succession of frames, each made of a succession of pixels,

~~characterized in that~~ wherein

[I] as regards the compression process [CP] ~~is concerned, the encoding operation is applied it comprises, moreover,~~ at least to as regards the luminance component, ~~an additional encoding operation, applied to~~ of the succession of picture mosaic encoded digital signals (VM) ~~resulting from the preliminary encoding operation, which and~~ is sensitive to the displacements of the contours in the ~~[[said]]~~ successive pictures frames and ~~which consists includes,~~ for each pixel of a frame, ~~said additional encoding operation using:~~

53 a) a deduction from the [[said]] succession of mosaic encoded digital signals  
54 (VM) of the correction bit packets as packets of binary signals representative of a global  
55 modification or not of the pictures between successive frames and of a displacement or of a non  
56 displacement of the pixel between the successive frames frame involved and the previous frames,  
57 as well as in case of displacement of the amplitude and of the oriented direction of the  
58 displacement, if any, said deduction being done by subjecting the [[said]] mosaic encoded digital  
59 signals (VM), one frame at a time:

60 - to a time-related process, in which for each pixel of a given frame, the value of  
61 the [[said]] frame pixel is compared with its previous frame pixel correct value: of same position,  
62 smoothed using a ~~«time constant»~~ time constant which is caused to evolve over the course of  
63 time to maximise the smoothing, in order to determine two parameters significant of the time  
64 variation of the pixel value between the frames, parameters which are variable over the course of  
65 time and are represented by two digital signals, which are [[i.e.]] a first binary signal DP (DP  
66 signal), having a first value of which represents a threshold overrun determined by the [[said]]  
67 variation and a second value that represents the non-overrun of this threshold determined by the  
68 [[said]] variation, and a second digital signal CO (CO signals), with a limited number of bits,  
69 representing the instant value, for the said pixel, of the [[said]] time constant, for the pixel,

70 - to a space related process of the values, for each pixel of a given frame, ~~of or~~  
71 said both digital signals DP (DP signals) and CO (CO signals) to determine the moving pixels  
72 for which simultaneously the [[said]] first signal DP (DP signals) exhibits the [[said]] first value  
73 representing the overrun of the [[said]] threshold and the [[said]] second signal (CO signals)  
74 varies significantly between neighboring pixels,

75 - to a process for deducting, for the [[said]] determined moving pixels, the  
76 amplitude and the oriented direction of the displacement,

- 77 b) a restoration of the position of the pixel if it has been displaced,  
78 c) a check whether the position restored pixel in case of displacement is in  
79 compliance or in non-compliance with the corresponding pixel of the frame involved,  
80 d) a memorisation of the result of this check, and

81 e) a transfer for the final compression operation; either, of the correction bits  
82 packets ~~said packet of binary signals representative~~ in case of compliance, or of the picture  
83 mosaic encoded signals type (VH) from the ~~[[said]]~~ preliminary encoding operation (A) ~~wavelet~~  
84 ~~filter~~ in case of non-compliance; and

85 [[II]] as regards the decompression process [DP] ~~is concerned, it comprises,~~  
86 ~~moreover, a preliminary decoding operation, which~~ the decoding operation [E] is applied to the  
87 ~~[[said]]~~ reconstructed flow of ~~decompressed~~ binary signals (VP1), and ~~[[which]]~~,

88 a) causes initially to circulate over a loop, from an input position on this loop,  
89 signals of ~~the said~~ a flow of the mosaic type corresponding to a first frame of a sequence of the  
90 video signals ~~to be reconstructed and~~ resulting from the ~~[[said]]~~ decompression operation [D],  
91 wherein ~~whereas~~ the travel duration of the ~~[[said]]~~ signals over the ~~[[said]]~~ loop is equal to that  
92 of a frame of the video signals to be decoded ~~reconstructed~~, each signals of a frame circulating  
93 normally in the loop as long as no modification and no displacement is signaled in the  
94 decompressed binary signals (VP1),

95 b) repositions in the ~~[[said]]~~ loop, the pixels having undergone a displacement  
96 signaled by a group of digital signals representing, in the flow of decompressed binary signals  
97 (VP1), the amplitude and the oriented direction of the displacement, ~~also resulting from the said~~  
98 ~~decompression operation,~~

99 c) replaces the picture mosaic type signals in circulation over the ~~[[said]]~~ loop  
100 with the new signals of this type as they arrive, and

101 d) extracts for transmission (VM1) to the final decoding operation; [F] from an  
102 output position on this loop located downstream of the said input position, the Picture mosaic  
103 type signals circulating in the loop, ~~after possible repositioning of the pixels.~~

1 2. (Currently Amended) A process according to claim 1, ~~characterised in~~  
2 ~~that~~ wherein it uses,

3 [I] for the compression [CP]; ~~and decompression processes,~~

4 - the preliminary encoding operation [A] of the succession of the digital video  
5 signals (VN) into a succession of mosaic encoded digital signals (VM) corresponding to the

6 scanning, in each frame, of ~~[[the]]~~ a Mallat diagram and making up the picture mosaic, using a  
7 wavelet filter,

8 - the final compression operation [C], using a compression-decompression  
9 assembly, with an adaptive quantifier, RCL type encoder and CH encoder, Huffman encoder  
10 type, operating in compression, and

11 [II] for decompression processes [DP]:

12 - the initial decompression operation [D], using a compression-decompression  
13 assembly, with an adaptive quantifier, RCL type encoder and CH encoder, Huffman encoder  
14 type, operating in decompression,

15 - the final decoding operation [F], using a reverse operation wavelet filter.

1 3. (Currently Amended) A process according to claim 1, wherein  
2 ~~characterised in that the~~ ~~[[said]]~~ preliminary decoding operation causes the ~~[[said]]~~ signals to  
3 circulate over a loop  
4 with a travel duration equal to the duration of a frame of ~~[[this]]~~ the signals,  
5 causes the ~~[[said]]~~ signals, during ~~[[its]]~~ travel over the ~~[[said]]~~ loop, to pass through a pixel  
6 position matrix the number of whose rows, on the one hand, and the number of whose columns,  
7 on the other,

8 is at least equal to  $2n+1$ , wherein ~~while designating by  $n$  is~~ the number of levels  
9 quantifying the displacement amplitude, whereby the ~~[[said]]~~ signals are ~~[[is]]~~ injected into the  
10 ~~[[said]]~~ loop at a central position of the ~~[[said]]~~ matrix, in bringing back, after running the  
11 ~~[[said]]~~ first frame of each sequence, within the ~~[[said]]~~ central position, a pixel of the ~~[[said]]~~  
12 signals, while moving inside the ~~[[said]]~~ matrix, which has moved between the frame involved  
13 and the previous frame, in relation to the correction bits packet regarding the ~~[[said]]~~ pixel. ~~In~~  
14 ~~order thus to restore the successive frames of the sequences as they were before encoding in the~~  
15 ~~encoding operation, and extracts from the said loop, in a position located downstream, in the~~  
16 ~~running direction, of the said central position, the successive frames thus restored.~~

1                   4.       (Currently Amended) A process according to claim 1, wherein  
2 ~~characterised in that~~ the ~~[[said]]~~ packet of correction digital signals comprises for each pixel,  
3 four groups of signals wherein:

4                   - the first ~~group includes a~~ consists of a single binary signal having a first value  
5 ~~that signals whereby one of both possible values of which represents~~ a global modification of the  
6 pictures between a frame and the previous frame or a second and the other value that represents a  
7 global non-modification, said first signal group ~~[[one]]~~ signalling the necessity of global  
8 correction or the non-necessity of such a correction,

9                   - the second ~~group includes~~ consists of a single binary having a first value that  
10 ~~signals whereby one of both possible values of which represents~~ a displacement for the pixel and  
11 a second the other value that represents a non-displacement, said second one, and[[,]]

12                   - the third and fourth groups each include a both other two consist of digital  
13 signal having signals with a limited number of bits and represent, one the quantified amplitude  
14 and the other the quantified oriented direction of the displacement ~~if any~~.

1                   5.       (Currently Amended) A process according to claim 4, wherein  
2 ~~characterised in that~~ the additional encoding operation [B] comprises the steps of:

3                   a) encoding the ~~[[said]]~~ mosaic encoded digital signals (VM), one pixel at a time,  
4 in relation to the value variation of each pixel between the frame processed and the previous  
5 frames by implementing for each pixel, a block of four digital signals among which

6                   - the first one, which is a binary signal ~~signals~~ represents, by both its possible  
7 values, either the necessity of global correction or the non-necessity of such a correction,

8                   - the second one, which ~~[[who]]~~ is ~~[[also]]~~ a binary signal ~~signals~~, appears  
9 exclusively when the ~~[[said]]~~ first ~~signals~~ represents the non-necessity of global correction and  
10 wherein the second digital signal it then represents, by both its possible values, either a  
11 displacement or a non displacement, and

12                   - the other two, which are both digital signals with a limited number of bits,  
13 appear exclusively when the ~~[[said]]~~ first signal ~~signals~~ represents the non-necessity of correction

14 and wherein the other two ~~they then~~ represent, one the quantified amplitude and the other the  
15 quantified oriented direction of the displacement in a zone of the composite frame involved;

16 b) ~~determining~~ determine whether the proportion, in each successive frame, of the  
17 number of pixels for which the ~~[[said]] first binary signal signals~~ has a ~~a~~ [[the]] value  
18 representative of a correction necessity with respect to the total number of pixels in the frame,  
19 exceeds a determined percentage; and

20 c) transmitting, one frame after the other, to the ~~[[said]]~~ final compression  
21 operation [C]:

22 - if the ~~[[said]]~~ percentage is not exceeded, the ~~[[said]]~~ block of signals related to  
23 the pixel affected, and

24 - if the said percentage is exceeded, the mosaic encoded digital signals generated  
25 by the preliminary encoding operation [A].

1 6. (Currently Amended) A process according to claim 1, wherein  
2 ~~characterised in that~~ the ~~[[said]]~~ preliminary decoding operation uses in the said loop a square  
3 matrix whose odd number of lines and whose number of columns are respectively smaller than  
4 the number of lines and the number of columns of a frame of the video signals to be  
5 reconstructed, wherein ~~whereas~~ both these numbers are greater, at least by one unit, than the  
6 number of quantification levels of the ~~[[said]]~~ displacement amplitude, and through which  
7 circulate the signals from the ~~[[said]]~~ decompression operation, and the position of the pixels  
8 having been displaced is restored, wherein ~~whereas~~ they are subject in the ~~[[said]]~~ matrix to a  
9 reverse direction translation whose quantified amplitude and whose quantified oriented direction  
10 are specified by the digital values of said both other groups of signals.

1 7. (Currently Amended) A device having a compression component for  
2 compressing [CP] an input digital video ~~signals~~ signal (VN) having at least a luminance  
3 component and formed by a succession of corresponding frames, each frame representing a  
4 video picture and formed by a succession of pixels, and a decompression component ~~as well as~~  
5 for decompressing [DP] compressed binary signals ~~in a device of this type, operating in~~  
6 compression,

7                ~~whereas this~~said compression [CP] component ~~including and decompression~~  
8 ~~device comprises for the compression:~~

9                [A]\_\_\_\_ - at least one preliminary encoding wavelet filter (11) configured to  
10 perform a wavelet analysis of the [[said]] digital video signals (VN) ~~performing a wavelet~~  
11 ~~analysis~~, favoring the transmission of the contours of the successive pictures represented by the  
12 [[said]] signals, in order to obtain a succession of mosaic encoded digital signals (VM) encoding  
13 the [[said]] signals in the form of a succession of picture mosaics,

14                [B]\_\_\_\_ - an encoding assembly for producing a flow of binary signals (VP) from  
15 the succession of mosaic encoded digital signals (VM),

16                [C]\_\_\_\_ - a final compression assembly (13/CP) for compressing the flow of binary  
17 signals (VP) in order to reduce a [[the]] number of the binary signals ~~by suppression of the~~  
18 ~~majority of the binary signals of the said flow whose value is determined within both possible~~  
19 ~~values of such signals, and for producing compressed binary signals (SIC, SIC1)~~

20                [II]\_\_\_\_ ~~whereas this compression and said decompression [DP] component device~~  
21 ~~including comprises for the decompression:~~

22                [D]\_\_\_\_ - an initial decompression assembly (13/DP) for decompressing the  
23 [[said]] compressed binary signals (SIC1) which reconstructs the ~~said~~ flow of binary signals  
24 (VP1) which were compressed before suppression, in the said final compression assembly [C], ~~of~~  
25 ~~the majority of binary signals of determined value,~~

26                [E]\_\_\_\_ - a decoding assembly for producing a succession of mosaic encoded  
27 digital signals (VM1),

28                [F]\_\_\_\_ - a final decoding assembly composed of a reverse-operating wavelet  
29 filter, which ~~deduces~~reconstructs, from wavelets representing in the form of picture mosaics, a  
30 digital video ~~signals~~ signal (VN1), the said digital video signals,

31                wherein~~characterised in that~~

32                [I]\_\_\_\_ for as regards the compression component [CP], ~~it comprises, moreover,~~  
33 and for at least ~~as regards~~ the luminance component in the [[said]] input digital video signals  
34 signal (VN), ~~an additional the~~ encoding assembly [B], ~~whose input (20) is connected (VM) to the~~  
35 ~~output (16) of the said wavelet filter (11/CP) [A] and whose its output (24) is connected (VP) to~~



the input ~~(25)~~ of the ~~[[said]]~~ final compression assembly ~~(13/CP)~~ [C], wherein the final compression ~~whereas this~~ assembly is sensitive to the displacements of the contours in the ~~[[said]]~~ successive pictures frames represented by the ~~[[said]]~~ succession of mosaic encoded digital signals (VM) ~~with mosaic pictures received at the input and comprising and comprises,~~ in order to process each pixel of a frame~~[[,]]~~:

a) means ~~(21)~~ to deduct from the ~~[[said]]~~ succession of mosaic encoded digital signals (VM) ~~with picture mosaics,~~ a packet of binary signals representative of a displacement or of a non displacement of the pixel between the frame involved and the previous ~~frame~~ frames, as well as in case of displacement of the amplitude and of the oriented direction of the displacement, ~~if any,~~ said means including being:

- means ~~(21a)~~ for a time-related process, in which for each pixel of a given frame, the value of the ~~[[said]]~~ frame pixel is compared with its previous frame pixel ~~correct~~ value, of said position, smoothed using a time constant ~~«time constant»~~ which is caused to evolve over the course of time to ~~maximise~~ maximize the smoothing, in order to determine two parameters significant of the time variation of the pixel value between the frames, parameters which are variable over the course of time and are represented by two digital signals, ~~i.e. which include a~~ first binary signals ~~DP signal (DP signal)~~, a first value of which represents a threshold overrun determined by the ~~[[said]]~~ variation and a second value of which represents the non-overrun of this threshold determined by the ~~[[said]]~~ variation, and a second digital signals ~~CO signal (CO signal)~~, with a limited number of bits, representing the instant value, ~~for the said pixel,~~ of the ~~[[said]]~~ time constant, for the frame pixel,

- means ~~(21b)~~ for a space-related process ~~of the values,~~ for each pixel of a given frame, ~~of on~~ said both digital signals ~~DP (DP) and CO (CO)~~ to determine the moving pixels for which simultaneously the ~~[[said]]~~ first signals ~~DP (DP signals)~~ exhibits the ~~[[said]]~~ first value representing the overrun of the ~~[[said]]~~ threshold and the ~~[[said]]~~ second signals (CO signals) varies significantly between neighboring pixels, ~~where as both these processes, time related and space related, and~~

- means ~~(21e)~~ to deduct, from the ~~[[said]]~~ moving pixels, the amplitude and the oriented direction of the displacement in binary signals, ~~on the one hand, the first value,~~

65 ~~representative of a displacement, for the said second binary signals and, on the other, the digital~~  
66 ~~values of said both other digital groups among the said four groups of digital signals,~~

67 b) means (34) to restore the position of the pixel if it has been displaced,

68 c) means (39) to check whether the position-restored pixel in case of displacement  
69 is in compliance or in non compliance with the corresponding pixel of the frame involved,

70 d) means to memorise the result of this check, and

71 e) means (40) to transfer to the [[said]] final compression assembly (13/CP) [C]  
72 either the [[said]] correction bits packets packet of signals representative in case of compliance,  
73 or the picture mosaic encoded signals (VM) type from the [[said]] preliminary encoding wavelet  
74 filter in case of non compliance; and,

75 as regards for the decompression component [DP], it comprises, moreover, a the  
76 preliminary decoding assembly [E], whose input is connected to the output of the [[said]] initial  
77 decompression assembly [D] and whose its output is connected to the a reverse wavelet filter  
78 input of the final decoding assembly [F] said wavelet filter, which said decoding assembly [E]  
79 comprising comprises:

80 a) a loop (50-51-52) whose input (34e) receives, from the [[said]] decompression  
81 assembly (13/DP) [D], the [[said]] reconstructed flow of binary signals (VP1), which starts with  
82 a picture mosaic type signals corresponding to a first frame of the video signals to be  
83 ~~reconstructed~~ decoded and which circulates in the form of a picture mosaic type signals, whereas  
84 the travel duration of the [[said]] signals over the [[said]] loop is equal to that of a frame of the  
85 video signals to be reconstructed, each signals of a frame circulating normally in the loop as long  
86 as no modification and no displacement is signaled in the decompressed binary signals (VP1)  
87 from the initial decompression assembly,

88 b) means (70) to reposition, in the [[said]] loop, the pixels having undergone a  
89 displacement indicated by a group of digital signals which represent, in the ~~said reconstructed~~  
90 flow of decompressed digital signals (VP1), the amplitude and the displacement direction,

91 c) means (203) to replace the picture mosaic type signals in circulation in the loop  
92 with the new signals of this type as they arrive, and

93 d) means to transmit to the final decoding assembly [F]~~operation~~, from an output  
94 (35) located downstream of the said input position, the picture mosaic type signals circulating in  
95 the loop,~~after possible repositioning~~.

1 8. (Currently Amended) A device according to claim 7, ~~characterised in that,~~  
2 wherein for the decompression component [DP], the ~~[[said]] preliminary~~ decoding assembly  
3 comprises [E]:

4 - means to cause to circulate normally, in a loop ~~(50-51-52)~~, a frame of the  
5 ~~[[said]] decompressed~~ binary signals (CP1) of mosaic type, ~~but encoded~~, received from the  
6 ~~[[said]] initial decompression portion of the said compression-decompression assembly as long~~  
7 as both binary signals represent simultaneously an absence of correction and an absence of  
8 movement,

9 - means to replace, in the ~~[[said]]~~ loop, the frame in circulation, with a new frame  
10 arriving with new pixel values, in the case when the binary correction signals indicates the  
11 necessity of a correction, and

12 - means to perform, in a square matrix ~~(50)~~, whose odd number of lines and of  
13 columns is smaller than the number of lines and of columns of a frame, wherein ~~whereas both~~  
14 these numbers are greater than, by at least one unit, the number of quantification levels of the  
15 said displacement amplitude, and through which circulate the ~~[[said]] decompressed~~ binary  
16 signals (VP1) of mosaic type, a translation operation of the moving pixels within the ~~[[said]]~~  
17 matrix from their position to the center position of pixel in the said matrix, in the case when the  
18 ~~said first~~ binary correction signals indicates an absence of correction while the ~~said second~~  
19 binary displacement signals indicates a displacement.

1 9. (Currently Amended) A device according to claim 7, further comprising i)  
2 ~~characterised it comprises means (203)~~ to cause the ~~[[said]]~~ digital signal encoded at the input to  
3 circulate over a loop ~~(50-51-52)~~, whose travel duration needed by the ~~[[said]]~~ signal is equal to  
4 the duration of a frame of this signal, ii) means to cause the ~~[[said]]~~ signal, during its travel over  
5 the ~~[[said]]~~ loop, to pass through a pixel position matrix ~~(50)~~ the number of whose rows, on the  
6 one hand, and the number of whose columns, on the other, is at least equal to  $2n+1$ , wherein

7 ~~while designating by  $n$  is the number of levels quantifying the displacement amplitude, wherein~~  
8 ~~whereby the [[said]] signal is injected into the [[said]] loop at a central position (60) of the~~  
9 ~~[[said]] matrix (50), iii) means (70) to bring back, after running the [[said]] first frame of each~~  
10 ~~sequence, within the said central position (60) a pixel of the [[said]] signal, while moving inside~~  
11 ~~the [[said]] matrix, which has moved between the frame involved and the previous frame, in~~  
12 ~~relation to the packet of correction bits regarding the said pixel, in order thus to restore the~~  
13 ~~successive frames of the sequences as they were before encoding in the encoding operation, and~~  
14 iv) means to extract from the said loop, in a position (35) located downstream, in the running  
15 direction, of the said central position (60), the successive frames thus restored.

1 10. (Currently Amended) A video compression apparatus, comprising:  
2 - a motion analysis stage, comprising circuitry configured designed to identify a  
3 pixel of a current frame of a video whose contents correspond to a different pixel of a previous  
4 frame of the video, and designed to produce a datum coding motion between the pixel of the  
5 previous frame and the pixel of the current frame; and  
6 - at least one other video processing stage of circuitry and/or software  
7 interconnected with the motion analysis stage to effect compression of the video, said other  
8 video processing stage having:  
9 a decoder configured to decode motion coding data produced by the motion  
10 analysis stage;  
11 a comparator configured to compare the decoded motion generated by the decoder  
12 to a representation of an input to the motion analysis stage; and  
13 circuitry controlled by the comparator to  
14 suppress in the compressed video a motion coding datum and replace it with a  
15 less-encoded datum for a corresponding portion of the video.

1 11. (Currently Amended) ~~The apparatus of claim 10, wherein the motion~~  
2 ~~analysis stage further comprises circuitry and/or software designed to identify a pixel of the~~  
3 ~~current frame whose contents corresponds to the same pixel of the previous frame. The~~  
4 apparatus of claim 10, wherein the corresponding content is identified when a numerical value of

5 the pixel of the current frame differs from the pixel of the previous frame within a threshold  
6 tolerance.

1           12.   (Currently Amended) ~~The apparatus of claim 10, wherein the~~  
2 ~~corresponding content is identified when a numerical value of the pixel of the current frame~~  
3 ~~differs from the pixel of the previous frame within a threshold tolerance.~~ The apparatus of claim  
4 10, wherein the motion analysis stage further comprises circuitry configured to identify a pixel of  
5 the current frame whose contents corresponds to the same pixel of the previous frame.

1           13.   (Currently Amended) The apparatus of claim ~~12~~<sup>11</sup>, wherein a datum  
2 coding the pixel of the current frame whose contents corresponds to the same pixel of the  
3 previous frame is entirely zeros.

1           14.   (Currently Amended) The apparatus of claim 10, wherein the motion  
2 analysis stage further comprises circuitry configured ~~designed~~ to convey a content of one pixel of  
3 the current frame instead of the datum coding motion of the one pixel.

1           15.   (Original) The apparatus of claim 14, wherein the one pixel is selected  
2 because of a large change in the content of the one pixel.

1           16.   (Original) The apparatus of claim 10, wherein the motion is encoded as a  
2 spatial displacement between the pixel of the previous frame and the pixel of the current frame.

1           17.   (Original) The apparatus of claim 16, wherein the spatial displacement, is  
2 encoded as a direction and distance.

1           18.   (Canceled)

1           19.   (Currently Amended) The apparatus of claim ~~10~~<sup>18</sup>, wherein the circuitry  
2 controlled by the comparator introduces corrections in a representation of the stored motion  
3 stored in the decoder.

1                   20.     (Currently Amended) The apparatus of claim 1018, wherein the circuitry  
2     controlled by the comparator is designed to increase a compression factor of the apparatus by  
3     introducing noise into the compression of the video.

1                   21.     (Canceled)

1                   22.     (Original) The apparatus of claim 10, further comprising:  
2                             a wavelet coder upstream of the motion analysis stage.

1                   23.     (Original) The apparatus of claim 10, further comprising a run-length  
2     coder downstream of the motion analysis stage.

1                   24.     (Original) The apparatus of claim 10, wherein the motion analysis stage  
2     analyses a luminance channel of the video.

1                   25.     (Currently Amended) The apparatus of claim 2224, wherein chrominance  
2     channels of the video are not analysed in the motion analysis stage.

1                   26.     (Currently Amended) The apparatus of claim 2224, wherein chrominance  
2     channels of the video are compressed based on the analysis of the luminance channel.

1                   27.     (Currently Amended) The apparatus of claim 2224, wherein chrominance  
2     channels of the video are compressed according to an intensity change during the stage that  
3     analyses the luminance channel.

1                   28.     (Currently Amended) Apparatus for processing digitally encoded video,  
2     comprising:

3                             one sequential buffer memory of the size of at least one frame plus  $2n$  lines  $2n+1$   
4     pixels, where  $n$  is the maximum amplitude of motion, digitally encodable in the video pixels, in  
5     said buffer memory having only one operational entry port and one operational output port;

6                             means for delivering to said buffer memory, in a sequential mode on said single  
7     entry port, successive pixel values of successive frames of said digitally encoded video; and

8                    one of a circuit and ~~and/or~~ software for replacing pixel values in a current video  
9 frame at least partially stored, in a sequential mode, in said buffer memory, with pixel values  
10 from a previous frame at least partially stored, in a sequential mode, in said buffer memory, in  
11 compliance with digital control data, representative of the pixel motion, encoded in said buffer  
12 memory.

1                    29. (New) Apparatus for decoding digitally encoded video made of a  
2 succession of frames of pixels which is encoded with a video compression apparatus having at  
3 least a motion analysis stage and producing compressed video made for each pixel of either a  
4 motion coding datum or of a less-encoded datum for a corresponding portion of the video,  
5 wherein the decoding apparatus has a preliminary decoding assembly comprising:

6                    a) a loop in the form of a sequential buffer memory of the size of at least one  
7 frame plus  $2n$  lines plus  $2n+1$  pixels, where  $n$  is the maximum amplitude of motion, and whose  
8 input receives with less-encoded datum a first frame of the video signals to be decoded and  
9 which circulates in the loop, wherein the travel duration of the signals over the loop is equal to  
10 that of a frame of the video signals to be reconstructed,

11                    b) means for repositioning, in the loop, the pixels having undergone a  
12 displacement indicated in the motion coding datum by a group of digital signals which represent  
13 an amplitude and a displacement direction,

14                    c) means for replacing less-encoded datum in circulation in the loop with the  
15 new signals of this type as they arrive, and

16                    d) means for outputting, from an output located downstream of the input  
17 position, the decoded video.

1                    30. (New) Apparatus for decoding digitally encoded video made of a  
2 succession of frames of pixels which is encoded with a video compression apparatus having at  
3 least a motion analysis stage and producing compressed video made for each pixel of either a  
4 motion coding datum or of a mosaic type datum for a corresponding portion of the video, said  
5 video compression apparatus further comprising a wavelet coder producing picture mosaic type

6 signals upstream of the motion analysis stage, wherein the decoding apparatus has a preliminary  
7 decoding assembly comprising:

8           a)       a loop in the form of a sequential buffer memory of the size of at least one  
9 frame plus  $2n$  lines plus  $2n+1$  pixels, where  $n$  is the maximum amplitude of motion, and whose  
10 input receives picture mosaic type signals corresponding to a first frame of the video signals to  
11 be decoded and which circulates in the form of a picture mosaic type signals, wherein the travel  
12 duration of the signals over the loop is equal to that of a frame of the video signals to be  
13 reconstructed,

14           b)       means for repositioning, in the said loop, the pixels having undergone a  
15 displacement indicated in the motion coding datum by a group of digital signals which represent  
16 an amplitude and a displacement direction,

17           c)       means for replacing the picture mosaic type signals in circulation in the  
18 loop with the new signals of this type as they arrive, and

19           d)       means for transmitting to a final decoding module having a reverse  
20 wavelet filter, from an output located downstream of the said input position, the picture mosaic  
21 type signals circulating in the loop.

1           31.       (New) The apparatus of claim 10, wherein the at least one other video  
2 processing stage is implemented in one of circuitry, software, and both circuitry and software.